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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,808	11/06/2001	William J. Gordon-Kamm	1146	8538

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EXAMINER	
COLLINS, CYNTHIA E	
ART UNIT	**PAPER NUMBER**
1638	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/993,808	GORDON-KAMM ET AL.	
	Examiner	Art Unit	
	Cynthia Collins	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-82* is/are pending in the application.

4a) Of the above claim(s) *12 and 14-78* is/are withdrawn from consideration.

5)☒ Claim(s) *13* is/are allowed.

6)☒ Claim(s) *3-11 and 79-82* is/are rejected.

7)☒ Claim(s) *2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 14, 2005 has been entered.

Claim 1 is cancelled.

Claims 81-82 are newly added.

Claims 2-82 are pending.

Claims 10, 13 and 79 are currently amended.

Claim 12 and 14-78 are withdrawn.

Claims 2-11, 13 and 79-82 are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Specification

The computer readable form (CRF) of the sequence listing submitted October 14, 2005 has been entered.

Claim Rejections - 35 USC § 112

Claims 79 and 81 are rejected, under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claim 79 requires "a polynucleotide having at least 71% sequence identity to a polynucleotide of SEQ ID NO: 1, wherein the % sequence identity is based on the entire coding region for SEQ ID NO: 2 and is calculated by the GAP algorithm under default parameters and wherein said polynucleotide encodes a polypeptide comprising SEQ ID NO: 7"; the limitation does not find support in the specification as filed and thus constitutes new matter. Claim 81 requires "a polynucleotide having at least 95% sequence identity to a polynucleotide of SEQ ID NO: 1, wherein the % sequence identity is based on the entire coding region for SEQ ID NO: 2 and is calculated by the GAP algorithm under default parameters and wherein said polynucleotide encodes a polypeptide comprising SEQ ID NO: 7"; the limitation does not find support in the specification as filed and thus constitutes new matter.

Claims 3-11 and 79-82 are rejected, under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record.

Applicants' arguments filed October 14, 2005 has have been fully considered but they are not persuasive.

Applicants traverse for reasons made of record in the Office Action response of January 26, 2005. In order to expedite allowance, applicants have amended claim 79. "An isolated polynucleotide that encodes a polypeptide that binds to a cyclin-dependent kinase or a cyclin ..." has been added to claim 79. Support for the amendment can be found in the specification on page 35, lines 6-8, which states, "When maize CKI is used as bait in such a two-hybrid screen, proteins that interact with CKI such as cyclin dependent kinases and cyclins per se are identified." (reply page 17)

The Examiner maintains that the amendment of claim 79 does not overcome the rejection, because the specification does not adequately describe polynucleotide variants that have at least 71% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to a cyclin-dependent kinase or a cyclin and that comprises SEQ ID NO: 7, as the specification describes only three polynucleotides that have at least 71% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that comprises SEQ ID NO: 7, the polynucleotide of SEQ ID NO: 1, which polynucleotide encodes a polypeptide of SEQ ID NO:2 that functions to inhibit kinase activity, the polynucleotide of SEQ ID NO: 3 (71% identical to SEQ ID NO:1), which polynucleotide encodes a polypeptide of SEQ ID NO:4 of unknown function, and the polynucleotide of SEQ ID NO: 5 (89% identical to SEQ ID NO:1), which polynucleotide encodes a polypeptide of SEQ ID NO:6 of unknown function. The Examiner maintains that the disclosure of three polynucleotide sequences obtained from a single source that encode a three polypeptides that comprise the structural motif of SEQ ID NO: 7, only

one of which (SEQ ID NO:1) is functionally characterized is not sufficient to support the description of a genus of polynucleotide variants that may be obtained from any unspecified source and that have at least 71% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to any type of cyclin-dependent kinase or any type of cyclin and that comprise SEQ ID NO: 7.

The specification also does not adequately describe polynucleotide variants that have at least 95% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to a cyclin-dependent kinase or a cyclin and that comprises SEQ ID NO: 7, as required by newly added claim 81, as the specification describes only a single polynucleotide specie that has at least 95% sequence identity to a polynucleotide of SEQ ID NO: 1, the polynucleotide of SEQ ID NO: 1, which polynucleotide encodes a polypeptide of SEQ ID NO:2 that functions to inhibit kinase activity and that comprises SEQ ID NO: 7. The Examiner maintains that the disclosure of a single polynucleotide sequence obtained from a single source that encodes a single polypeptide of 256 amino acids (SEQ ID NO:2) that exhibits a single function (inhibits kinase activity) and that comprises a structural motif of 7 amino acids (SEQ ID NO: 7) is not sufficient to support the description of a genus of polynucleotide variants that may be obtained from any unspecified source and that have at least 95% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to any type of cyclin-dependent kinase or any type of cyclin and that comprise SEQ ID NO: 7.

Claims 3-11 and 79-82 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated nucleic acid comprising a polynucleotide that

encodes a polypeptide of SEQ ID NO: 2, as well as an expression cassette comprising a polynucleotide that encodes a polypeptide of SEQ ID NO: 2 operably linked to a promoter wherein the nucleic acid is in a sense orientation, a host cell and transgenic plant and seed comprising said expression cassette, does not reasonably provide enablement for other polynucleotide sequences, or for expression cassettes comprising a polynucleotide that encodes a polypeptide of SEQ ID NO: 2 operably linked to a promoter wherein the nucleic acid is in an antisense orientation. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims, for the reasons of record.

Applicants' arguments filed October 14, 2005 has have been fully considered but they are not persuasive.

Applicants traverse for reasons made of record in the Office Action response of January 26, 2005. In order to expedite allowance, applicants have amended claim 79. (reply page 18)

The Examiner maintains that the amendment of claim 79 does not overcome the rejection, because the specification does not provide sufficient guidance with respect to which structural elements of SEQ ID NO:1 would be retained by polynucleotide variants that have at least 71% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to a cyclin-dependent kinase or a cyclin and that comprises SEQ ID NO: 7. The specification also does not provide sufficient guidance with respect to which structural elements of SEQ ID NO:1 would be retained by polynucleotide variants that have at least 95% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to a cyclin-dependent kinase or a cyclin and that comprises SEQ ID NO: 7, as required by newly

added claim 81. Such guidance is necessary because the functionality of variants of SEQ ID NO:1 is unpredictable, since structurally homologous sequences are not always functionally homologous.

The specification additionally does not provide sufficient guidance with respect to how to use polynucleotide variants that have at least 71% or 95% sequence identity to a polynucleotide of SEQ ID NO: 1 and that encode a polypeptide that binds to a cyclin-dependent kinase or a cyclin and that comprises SEQ ID NO: 7 to make antisense expression cassettes that function in a specific manner. Such guidance is necessary because making and using antisense expression cassettes is unpredictable, as the ability of an antisense transcript to suppress gene expression depends on multiple variables which include but are not limited to the length of the antisense transcript, its position relative to the parent gene, and the degree of homology between the antisense transcript and the gene to be suppressed.

Allowable Subject Matter

Claim 2 is objected to for the reasons of record.

Applicant's arguments filed October 14, 2005 has have been fully considered but they are not persuasive.

Applicants traverse for reasons made of record in the Office Action response of January 26, 2005. In order to expedite allowance, applicants have amended claim 79, from which claim 2 is dependent. (reply page 18)

The objection is maintained, as the amendment of claim 79 does not overcome the rejection of claim 79 as set forth above.

Claim 13 is allowed.

Remarks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cynthia Collins
Primary Examiner
Art Unit 1638

CC

11/16/05